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TO:	Mr. Joseph Nguyen
COMPANY:	U.S. Patent and Trademark Office, Group Art Unit 2815
FAX NO.:	703-872-9306
FROM:	Michael R. Gilman, Esq.
We are sending a communication of 15 page(s) (including this cover sheet). Please call (732) 634-7634 immediately if transmission is interrupted or of poor quality.	
OUR REF: 312/12	DATE: November 5, 2004

MESSAGE:

Dear Mr. Nguyen:

In connection with your recent telephone conversation with our legal assistant, Paula Halsey, attached please find the documents that were filed on March 9, 2004, but were lost in the U.S. Patent and Trademark Office.

Should you have any questions, please do not hesitate to contact us.


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TRANSMITTAL
FORM

(to be used for all correspondence after initial filing)

		Application Number	09/852,582
		Filing Date	05/09/01
		First Named Inventor	Julen Sarathy
		Art Unit	2815
		Examiner Name	Joseph Nguyen
Total Number of Pages in This Submission	15	Attorney Docket Number	312/12

ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance communication to Technology Center (TC)
<input type="checkbox"/> <input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> <input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> <input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	<input type="checkbox"/> Copies of 3/9/04 & 11/4/02 stamped postcards, 10/28/02 Amdt. & 3/9/04 Req. to W/D...Abandonment.
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s)	
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application		
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Remarks		
Sent by fax with fax cover sheet.		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Michael R. Gilman (Reg. No. 34,826)
Signature	
Date	November 5, 2004

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Paula M. Halsey
Signature	
Date	November 5, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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KAPLAN & GILMAN, L.L.P. Date 3/9/04 Attn. JK
Re: METHOD FOR Bit-Rate & Format Insensitive
Performance Monitoring of Lightwave Sig.
Attorney Docket No.: 31212 Serial/Patent No.: 08/852,582

Enclosures:

<input type="checkbox"/>	Cover Page:	_____
<input type="checkbox"/>	Patent Application (pgs.)	<input type="checkbox"/> Utility <input checked="" type="checkbox"/> Design <input type="checkbox"/> Prov <input type="checkbox"/> Divl
<input type="checkbox"/>	Sheets of drawings:	<input type="checkbox"/> informal <input type="checkbox"/> formal or figs. _____
<input type="checkbox"/>	Notice to File Missing Parts	<input type="checkbox"/> Amendment _____ pgs.
<input type="checkbox"/>	Declaration and POA	<input checked="" type="checkbox"/> Other <u>Request to withdraw</u>
<input type="checkbox"/>	Assignment/Recordation	<u>the Notice of</u>
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*filed docs +
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NOV 05 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Jithamithra Sarathy, et al.

Title of Invention : METHOD FOR BIT-RATE AND FORMAT
INSENSITIVE PERFORMANCE MONITORING OF
LIGHTWAVE SIGNALS

Filed : May 9, 2001

Serial No. : 09/852,582

Examiner : NGUYEN, Joseph

Art Unit : 2815

Attorney Docket No. : 312/12

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST TO WITHDRAW THE NOTICE OF ABANDONMENT

Dear Sirs,

Applicants have just received a Notice of Abandonment mailed February 27, 2004 from the USPTO, in which Applicants are informed that the application is abandoned because no reply has been received in response to the Office Action dated September 16, 2002.

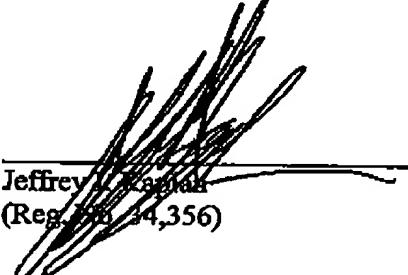
Applicants have reviewed the file of the application, and believe that a response to the Office Action dated September 16, 2002 was timely submitted on October 28, 2002 and was received by the USPTO on November 4, 2002 (as shown on the return postcard received from the USPTO). A copy of the submission on October 28, 2002 as well as the return postcard from the USPTO are enclosed herewith.

Therefore, Applicants respectfully request that the Examiner withdraw the Notice of Abandonment and continue the examination on the application. No fee is believed due. However, the Examiner is authorized to deduct any fees believed due from our Deposit Account No. 11-0223.

Respectfully submitted,

KAPLAN & GILMAN, L.L.P.
900 Route 9 North
Woodbridge, New Jersey 07095
Telephone (732) 634-7634

DATED: March 9, 2004



Jeffrey L. Kaplan
(Reg. No. 34,356)

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited in the United States Postal Service as first-class mail, in a postage prepaid envelope, to Mail Stop Non-fee Amendment, Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450 on March 9, 2004.

Dated March 9, 2004 Signed Paula M. Halsey Printed Name Paula M. Halsey

KAPLAN & GILMAN, L.L.P. Date 10/28/04 Atty MRP

Re: Method for Bit-Rate and Format Insensitive Performance Monitoring of Lightwave Signals
Atty Dkt No. 312/12 Client Name: Alphatec

S/N: 09/852,582 R/N: _____ IP/N: _____

Enclosures: Amendment (9 pgs)



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Jithamithra Sarathy, et al.
Title of Invention : **METHOD FOR BIT-RATE AND FORMAT
INSENSITIVE PERFORMANCE MONITORING OF
LIGHTWAVE SIGNALS**
Filed : May 9, 2001
Serial No. : 09/852,582
Examiner : NGUYEN, Joseph
Art Unit : 2815
Attorney Docket No. : 312/12

Box Amendment
Commissioner for Patents
Washington, DC 20231

AMENDMENT

Sir:

This is responsive to the Office Action dated September 16, 2002, in connection with the above-referenced patent application.

IN THE CLAIMS:

The applicants have deleted claims 30 and 32, amended claims 1, 5, 31 and 33, and have added claims 34 and 35, as follows.

1. (Twice Amended) A semiconductor device comprising:
a waveguide core for passing light therethrough;
a grating with a tunable effective index for reflecting one or more wavelengths of said light;

an absorption section for absorbing said reflected wavelengths and generating a photocurrent from said absorbed wavelengths; and

a tuning section for changing said effective index of said grating so that only a particular wavelength is selected to be reflected by said grating and therefore absorbed by said absorption section.

5. (Twice amended) A semiconductor photodetector device comprising:

a substrate of a first doping type;

an undoped region, laterally disposed above the substrate;

a waveguide laterally disposed above the undoped region for passing light therethrough;

a grating with a tunable effective index positioned between the substrate and the undoped region for reflecting one or more wavelengths of said light;

an upper region, of a second doping type, laterally disposed above the waveguide region;

an absorption section positioned above said upper region for absorbing said reflected wavelengths and generating a photocurrent from said absorbed wavelengths;

a tuning section for changing said effective index of said grating so that only a particular wavelength is selected to be reflected and therefore absorbed by said absorption section..

30. (Deleted)

31. (Amended) The semiconductor device of claim 1 wherein said tuning section comprises an electrode, and said effective index is changed by changing an electrical current injected into said electrode.

32. (Deleted)

33. (Amended) The semiconductor photodetector of claim 5 wherein said tuning section comprises an electrode, and said effective index is changed by changing an electrical current injected into said electrode.

34. (Added) The semiconductor device of claim 1 wherein said absorption section comprises an electrode for generating said photocurrent from said absorbed wavelengths.

35. (Added) The semiconductor photodetector of claim 5 wherein said absorption section comprises an electrode for generating said photocurrent from said absorbed wavelengths.

REMARKS

This is responsive to the office action dated September 16, 2002 in which the Examiner rejects all the pending claims 1-13, 16, 18-19 and 29-33 either as being anticipated by Matsui (JP Patent 363111679A) under 35USC §102(b) or as being obvious over Matsui (JP Patent 363111679A), Aoki et al (US Patent 5,737,474), Chandrasekhar (US Patent 5,689,122), Nitta et al (US Patent 6,252,895), Rushing (US Patent 6,331,832) and/or their combinations under 35USC §103(a). The Examiner also rejects claims 30-33 for being indefinite under 35USC §112. The applicants have further amended independent claims 1, 5, 31 and 32 for more clearly defining the present invention, deleted claims 30 and 32, and added two new dependent claims 34 and 35. The applicants believe that the above amendment has overcome the rejections under 35USC §112, and respectively traverse the rejections of the Examiner under 35USC §102(b) and 35USC §103(a) based on the above amendment and the explanations as below.

The present invention teaches a novel semiconductor device (photodetector) for

measuring and monitoring light waves by generating a photocurrent from light of one or more wavelengths that is reflected by a grating and absorbed by an absorption section. In particular, as taught by the present invention as defined in the amended independent claims 1 and 5, the semiconductor device/photodetector comprises a distinguishing feature that a tuning section for changing the effective index of the grating so that only a particular wavelength is selected to be reflected and therefore absorbed by said absorption section. With the present invention, the effective index of the grating is tunable during the measurement, thus the measurement can be carried out wavelength by wavelength with the same grating, which substantially increases the measuring speed. In a preferred embodiment, the tuning section comprises an electrode, and the effective index of the grating is changed by changing an electrical current injected into the electrode, as defined in claims 31 and 33.

The applicants do not agree with the allegation of the Examiner that the present invention has been anticipated by Matsui (JP 63111679 A). In particular, the applicants do not agree with the allegation of the Examiner that "the electrode 18 functions as a tuning section", and that the element 17 is "means for selecting a particular wavelength by changing said effective index of said grating" as stated in the Office Action since such allegation lacks support from the disclosure in Matsui. Matsui discloses a semiconductor element which can detect only a part of light in an optical waveguide layer and propagate the other light through this layer. As disclosed in Matsui and shown in Figure 1, the light satisfying the Bragg reflection condition is reflected by the grating 14 to the absorption layer 16, from which a photocurrent is generated by the electrode 18 which is positioned on the depletion region 17 of the absorption layer 16. It can be

found nowhere in Matsui that the electrode 18 or the depletion region 17 functions as a tuning section for changing the effective index of the grating 14, as alleged by the Examiner. In fact, like the electrode 106A in the present application, the electrode 18 functions to generate photocurrent from the reflected light that is absorbed by the absorption layer 16 and the depletion region 17. Though it is well known in the art (such as Deacon patent US 6,373,872) that the effective index of a grating can be tuned in various ways including by changing an electrical current injected to an electrode provided on the device, but in Matsui the electrode 18 functions to generate a photocurrent from the reflected light, but does not function as a tuning section to change the effective index of the grating 14. There is no teaching in Matsui that a current is injected into the electrode 18 to determine the effective index of the grating 14 and is changeable so as to change the effective index of the grating 14. There is no such a teaching in Figure 3 either. In Figure 3, three different grating 14a, 14b and 14c are arranged along the waveguide for reflecting light of three different wavelengths, and the electrodes 18a, 18b and 18c function to generate photocurrents from the respective reflected light wavelength but not as tuning section for changing the effective index of any of the gratings 14a, 14b and 14c. In fact, throughout the disclosure in Matsui, there can not be found anywhere a teaching or implication that the effective index of the grating 14 or 14a-14c is tunable or changeable. In a word, Matsui does not disclose any tuning means to change the effective index of any of the gratings. 14, 14a-14c. Therefore, the applicants believe that claims 1 and 5 are not anticipated by Matsui as alleged by the Examiner.

Furthermore, the applicants do not agree with the allegation of the Examiner that in

Chandrasekhar (US 5,689,122) the contact 22 reads as "the tuning section" of the present invention and that the p-contact layer 7 functions "for selecting a particular wavelength by changing said effective index of said grating" because such allegation lacks support from the disclosure of Chandrasekhar. Such alleged functions can be found nowhere in Chandrasekhar. As described in Chandrasekhar, the contact 22 and the p-contact layer 7 are elements of the p-i-n photodiode 12 and are positioned above an absorber layer 6 (col. 2, lines 55 – 58). It can not be found anywhere throughout Chandrasekhar an explanation or description that the contact 22 or the p-contact layer 7 is a tuning section for changing said effective index of said grating so that only a particular wavelength is selected to be reflected and therefore absorbed by said absorption section, which is a distinguishing feature of the present invention. This distinguishing feature can not be found in Nitta et al (US 6,252,895) either. Therefore, the applicants believe that claim 5 is not obvious over Chandrasekhar or Nitta et al or their combination.

Therefore, independent claims 1 and 5 are not anticipated by Matsui and claim 5 is not obvious by Chandrasekhar in view of Nitta. The above feature as underlined can not be found in other two cited patents, Aoki et al and Rushing either. Thus, claims 1 and 5 are patentable. At least for the same reasons, their dependent claims 2-4, 6-16, 18-19, 31, 33-35 are also patentable.

In addition, the applicants can not find anywhere in Chandrasekhar a disclosure or implication that the p-contact layer 7 is used for changing an electrical current input to the electrode 22, as alleged by the Examiner. In fact, there is no teaching in Chandrasekhar on changing an electrical current injected into the electrode so as to change the effective index of

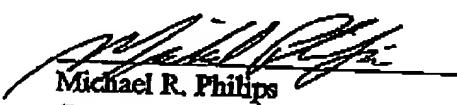
the grating (if there is an implied grating as presumed by the Examiner). Therefore, the above feature as defined in claims 31 and 33 of present application is not disclosed in Chandrasekhar either, and thus strengthens the patentability of claims 31 and 33.

Thus, the applicants respectfully request reconsideration based on the amendment and remarks as above. Any fees believed due should be charged to our Deposit Account No. 11-0223.

Respectfully submitted,

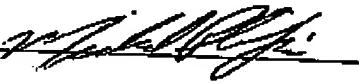
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DATED: October 28, 2002


Michael R. Philips
(Reg. No. 34,407)

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I hereby certify that this correspondence is being deposited with the United States Postal service as first class mail, in a postage prepaid envelope, addressed to Box RCE, Commissioner for Patents, Washington, D.C. 20231 on October 28, 2002.

Dated October 28, 2002 Signed  Print Name Michael R. Philips

MARKED-UP VERSION OF AMENDED CLAIMS 1, 5, 31 and 33

1. (Twice Amended) A semiconductor device comprising:

[a buried grating;]
a waveguide core for passing light therethrough;
a grating with an effective index for reflecting one or more wavelengths of
said light;
an absorption section for absorbing said reflected wavelengths and generating a
photocurrent from said absorbed wavelengths; and
a tuning section for changing [an] said effective index of said grating so that
only a particular wavelength is selected to be reflected by said grating and therefore absorbed by
said absorption section.

5. (Twice amended) A semiconductor photodetector device comprising:

a substrate of a first doping type;
an undoped region, laterally disposed above the substrate;
[a grating positioned between the substrate and the undoped region;]
a waveguide laterally disposed above the undoped region for passing light therethrough;
a grating with an effective index positioned between the substrate and the undoped region
for reflecting one or more wavelengths of said light;
an upper region, of a second doping type, laterally disposed above the waveguide region
[, where the waveguide is of a different atomic composition than the substrate, undoped region,
and upper region];
an absorption section positioned above said upper region for absorbing said

reflected wavelengths and generating a photocurrent from said absorbed wavelengths;
a tuning section for changing [an] said effective index of said grating so that only
a particular wavelength is selected to be reflected and therefore absorbed by said absorption
section.

31. (Amended) The semiconductor device of claim [30] 1 wherein said tuning [region] section comprises an electrode, and [said means for selecting comprises means for] said effective index of the grating is changed by changing an electrical current [input to] injected into said electrode.

33. (Amended) The semiconductor [device] photodetector of claim [32] 5 wherein said tuning [region] section comprises an electrode, and [said means for selecting comprises means for] said effective index of the grating is changed by changing an electrical current [input to] injected into said electrode.